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EDITORIAL AND PUBLICATION OFFICE
WINTHROP, IOWA

NOTES ON CERTAIN RAPTORES IN ALLAMAKEE, CLAYTON AND DUBUQUE COUNTIES, IOWA

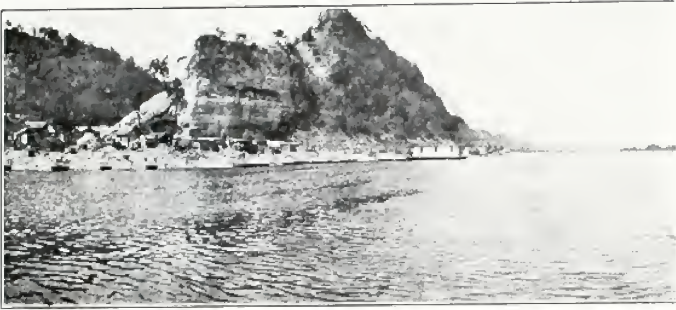
By OSCAR P. ALLERT
GIARD, via MCGREGOR, IOWA

TURKEY VULTURE, *Cathartes aura septentrionalis*. Most of the older residents with whom I have talked agree that the Turkey Vulture was more common in this locality four or five decades ago than at the present time. Several observers state that in late years the bird has increased as a summer resident in Allamakee County, though it is found mostly on the Mississippi and Upper Iowa Rivers. During the breeding season they are rarely seen away from the rivers. Aside from migration, I have but three records for Clayton County, each for a single bird. One was caught in a steel trap at Watson, on May 7, 1919; one was seen over Giard on June 29, 1933, and on July 25, 1939. It is more often seen soaring over the Iowa bluffs and river bottoms along the Mississippi north of Waukon Junction. On May 14, 1939, I watched a large flock near Harpers Ferry as they soared over the bluffs. The largest number in sight at one time was 17, but the entire flock probably numbered 30 or more. Each fall before migration a flock of 40 to 50 is usually to be found near Waukon Junction. At this place, on October 25, 1924, I saw a disabled Great Blue Heron start across Mud Hen Lake closely followed by seven vultures. The heron was barely able to keep above the water but made the opposite shore and disappeared in the rushes. The vultures settled in a dead tree near the spot.

GOLDEN EAGLE, *Aquila chrysaetos canadensis*. A "big hawk" that was killed while destroying poultry at National, Clayton County, November 15, 1931, was of this species. The specimen is in my collection. I observed another perched on the upper cross-arm of a telephone pole near Holy Cross, Dubuque County, December 18, 1934.

BALD EAGLE, *Haliaeetus leucocephalus leucocephalus*. This species is to be seen frequently along the Mississippi River, mostly in Allamakee County. Winter records are rather numerous. During the building of the dam near Lansing, several years ago, Fred Bell, who spent an entire winter at the site, saw eagles almost daily. William Youngworth saw an adult at New Albin, January 15, 1935. I have records for immature birds, January 10, 1917, and November 3, 1922, at Giard; and one near Monona, February 2, 1924. George Kaufman, state conservation officer, observed a most interesting gathering of eagles at Guttenberg, Clayton County, on December 20, 1938, when he counted 37 that were feeding on dead fish that came from under the ice below the dam. Several thousand ducks were present at the time on the nearby flats, but the eagles paid no attention to them during the period of observation. There are no recent nesting records, although eagles are present throughout the summer. About 1900 Ellison Orr noted a jutting ledge of rock at Waukon Junction that Jim Hancock, an old river fisherman, pointed out to him as the former nesting site of eagles. The ledge was about eight by ten feet in size and held a large bulky nest of sticks and debris. About 25 years ago, this ledge broke off and fell, and damaged the road that is now Iowa highway No. 13 and the nearby track of the Milwaukee railway. I am not alone in the belief that nesting Bald Eagles will be found in this territory eventually. (For a description of the early nesting of eagles in this region see Mr. Orr's article, 'Notes on the Nesting of the Bald Eagle in Allamakee County, Iowa', in the June, 1937, issue of 'Iowa Bird Life', pp. 18-19.)

DUCK HAWK, *Falco peregrinus anatum*. This is Iowa's "forgotten" bird. Shortly after the publication of Philip A. DuMont's 'Revised List of the Birds of Iowa' (1933), Mr. Orr wrote to me regarding this



MISSISSIPPI RIVER SCENE NEAR MCGREGOR

The river is bordered by high, steep cliffs such as the one shown in this photograph. It is in these rocky bluffs that the Duck Hawk finds suitable nesting cavities. (Reproduced by courtesy of J. F. Widman and Sons, McGregor, Iowa.)

species in Allamakee County and gave a number of records. Strangely enough, while bird students were not aware of the presence of nesting Duck Hawks in this corner of the state, fishermen and rivermen and some game wardens seemed to be entirely familiar with the birds, which in some instances were referred to as "cliff eagles". Several of these men pointed out to me the cliffs in which the birds had nested. Mr. Orr records their nesting in 1900 in the first precipice north of Waukon Junction. Jim Hancock, with whom Mr. Orr stayed while on fishing trips, (quoting from Mr. Orr's letter) "cursed fluently this pair of hawks that were carrying away his chickens which he set great store by." Continuing: "Although a first-class wing-shot, he was unable to get them. They would come in under the trees, snatch up a chicken and be off before he could reach his gun, and when he watched, gun in hand, they never came. He showed me the place where they nested, and several times I saw them fly in there." Mr. Orr saw a pair about the same cliff in the summer of 1933.

L. J. Barthell, who has worked much with Government surveying parties on land purchased for the Mississippi Wild Life Refuge, observed a pair of Duck Hawks frequenting cliffs about two miles north of Lansing in the summer of 1933 as well as in previous summers.

Several residents of Guttenberg, Clayton County, at various times in the last ten years have told me of the nesting of hawks in the cliff south of the town. Miss Margaret Kohlman saw two Duck Hawks about the cliff on September 22, 1938. They were flying in and out of a crevice, a disturbance following each entrance. On April 8, 1939, she again visited this place and saw a single bird perched on a dead branch on the cliff. I visited the place on the afternoon of May 22, 1939, and saw one of the hawks leave the crevice and fly away to the river. I was assured by two Guttenberg people that a pair of hawks had been observed carrying prey to this cliff.

My father, Rev. C. F. Allert, who spent a few years of his boyhood at Waupeton, Dubuque County, remembered hawks that "cried like ducks" and nested in the sheer cliffs facing the river. That was in 1857-58. Dubuque County has ideal nesting sites along the Mississippi, and diligent search there in the future may bear fruit.

In 1939 several nesting pairs were seen. One pair was located above and one below Lansing by George Kaufman. The one below Lansing was also noted in the spring of 1938. Satisfactory evidence is lacking for a pair reported near Harpers Ferry, as well as a pair between Lansing and the Minnesota state line. The birds seen at these points might easily have been those from one of the records cited here.

On May 11, 1939, Fred J. Pierce, Rev. M. C. Melcher and I located a pair of Duck Hawks one mile north of Waukon Junction. The nesting cavity was at a height of about 200 feet in the cliff which is probably somewhat over 300 feet high. The place is not a secluded one, for directly under the precipice is a much-traveled road, and a few yards beyond that are the tracks of the Milwaukee railway; on the narrow strip of land lying between the tracks and the Mississippi River are a group of buildings composing a fisherman's camp. As we walked along the road below the nesting site, an adult Duck Hawk flew out of the crevice and called excitedly. The bird circled high in the air many times, and as it uttered its penetrating call the high cliffs on one side and the river on the other echoed the wild sound. Through field glasses we could see movements of the young in the crevice. The hawk alighted on a dead tree well up on the face of the cliff and sat there for a long period, a fine figure in the bright sunlight. The other adult returned while we were there, so we had a chance to see both members of the pair. I again visited the place on May 14 and definitely saw movements of the young in the crevice. It was reported to me that on May 29 they were out of the nest and on the wing. The owner of the fishing camp told us that the hawks had nested in one of the first five cliffs north of Waukon Junction for the last seven years.

From all evidence gathered by me in late years, I feel more than satisfied that we have always had the Duck Hawk with us as a breeding bird. In Allamakee County this has been especially evident. The nestings at Lansing, Waukon Junction and Guttenberg in 1939 would indicate an average year.

SAW-WHET OWL, *Cryptoglaux acadica acadica*. I have one record, unsatisfactory as to date. A bird of this species was shot at the mouth of the Yellow River, Allamakee County, in about 1905. Mr. Elwell of McGregor mounted it, and it was in his possession for some years. Dr. H. C. Oberholser examined the specimen during one of the early sessions of the Wild Life School at McGregor. He wrote me that he remembered the bird as a Saw-Whet Owl. The specimen has since been lost.

THE PROTHONOTARY WARBLER NESTS AT BURLINGTON

By EDITH FERGUSON LA FORCE
BURLINGTON, IOWA

The location of our home on the bluff of the Mississippi River with the hillside a tangled mass of wild grapevines, bitter-sweet and shrubbery invites the birds, and many of them come to the feeding-tray during the entire year.

When on May 15, 1939, I heard the sharp, ringing "tweet, tweet, tweet" of the Prothonotary Warbler near my kitchen door and soon saw these little beauties bringing leaves and roots for their nest, I was thrilled! The box they chose for their home is an old, self-feeding seed-box, which in previous years had been occupied by wrens. It is about six inches below the feeding-tray, which is on a six-foot post and only about four feet from the porch rail.

For several days the warblers seemed a little undecided about settling in this house, no doubt because of wrens in nearby houses, but they finally established their "squatters' rights". The sparrows and wrens, when they dared to light upon the feeding-tray, were swooped down upon with a persistence that must have convinced them that they were intruders. The larger birds—Cardinals, Catbirds, Brown Thrashers and even the Bronzed Grackles—were permitted the freedom of the feeding-tray just above the roof of the warbler's house. The wrens were the

cause of constant vigilance on the part of both Prothonotary Warblers, but the male was particularly alert to protect his mate and the privacy of their home.

Upon advice of Burlington's bird woman, Mrs. Ella L. Clark, we discontinued putting food on the feeding-tray, and the other birds soon found the feeding spot which we established not too close to the one which they have frequented for many years.

On June 6, much to my delight, the feeding began, and such busy parents as those warblers were! I did not hear a sound in the box, but the feeding of insects continued and on June 13, I heard the first impatient begging of the young. One of the things that interested me very much was to see and hear the male sing loud and long with his bill full of sand-flies or other insects. He usually opened his bill so wide when he sang that I wondered how he accomplished the same effect with it closed tight.

On June 14, I took a snapshot, placing the kodak about four feet from the box, inside the screened porch, focusing the kodak and then snapping it blindly, as I hid back of a chair when the birds appeared. The accompanying picture is the only successful one of several attempts.

During the feeding period the Catbirds were a source of annoyance, but with the swooping and snapping of their wings the little yellow fellows completely subdued them.

At about 9 o'clock on the morning of June 17, the big thrill came when I discovered the baby peeking out of the hole in the box! I was "on duty" from morning till night on the porch which was so near their home and watched them almost constantly. As the baby was about to venture forth into the wide world the wrens were again troublesome and quite a feud ensued. At ten minutes after nine the baby "took off," and unfortunately I was "off duty" for about an hour and do not know whether there were other babies or not. One baby was still in the nearby shrubbery when I returned, and for two weeks they were in the dense growth on the bluff. The parent birds returned to the box many times and I hoped they would again set up housekeeping, but they had a good many arguments with the wrens over possession of the house and no doubt became discouraged.

I have heard their "tweet, tweet, tweet" a number of times, and the male appeared on his favorite little branch in the nearby maple tree on July 13.



PROTHONOTARY WARBLER AT NEST SITE

The nest was in the seed-box to which the bird is clinging. The Mississippi River is in the background. Photographed by Mrs. Edith F. LaForce.

THE SUMMER HABITS OF THE RUFFED GROUSE
IN IOWA

By EMMETT B. POLDERBOER

The Ruffed Grouse (*Bonasa umbellus umbellus*) is rated as one of America's finest native game birds by many sportsmen. In Iowa the grouse was formerly found throughout the state in every county with the exception of a few counties in the northwestern corner. Today ornithologists report the grouse as occurring in a scattered range in a few counties in northeastern Iowa.

The following investigation was carried on during July and August, 1938, in the northeastern section of the state. Three counties, Clayton, Dubuque and Allamakee, were surveyed to a limited extent while the major research was conducted in the Backbone State Park in Delaware County.

The objectives of this research were: to note the preferred habitat; to learn the summer food habits; to determine the cruising radius and to note the density of population.

In mid-summer grouse are seldom seen in the open woods or on the high, brush-covered ridges. It is almost impossible to flush them at this season. The reason for this change in grouse activity is the mid-summer molting of feathers which occurs late in July and continues through August. After the grouse have molted they are flightless and must retire to cover that will provide food, water and freedom from molestation by natural enemies.

The last grouse that was able to fly was found in the Backbone State Park on July 18 when it flushed from a patch of wild red raspberries (*Rubus idaeus*). On July 25, a grouse was routed from a weed patch nearly 150 yards from the location where the former bird was flushed. The last mentioned grouse was unable to fly; she ran rapidly through the weeds uttering a clucking sound and finally evaded pursuit in a dense growth of brake ferns (*Pteris aquilina*). Another grouse was nearly stepped upon in a location not two rods away from the spot where the last grouse was routed.

These two birds were all that could be found in the weed patch at any time during the summer. Repeated investigations were made in this area and at no time were more than two grouse sighted. Much time was spent in quietly waiting for the appearance of grouse chicks, but no chicks were sighted on any of the daily excursions to this area. In order to make an accurate check more certain, C.C.C. enrollees were employed to aid in finding the number of grouse present in the park. The greatest number actually seen was two adults. These two birds apparently comprised the total population of the entire 1400 acres of state park land.

A molting cover under observation in the Backbone State Park area was on six acres of valley land containing a soil of decomposed lime known as geest. This was covered three to six inches deep with a humus-laden, black soil formed by the decay of leaves and herbaceous vegetation. The plant cover was composed of nearly an acre of brake fern and sarsaparilla (*Aralia nudicaulis*). This cover passed into a transition zone of brake fern, sarsaparilla, stinging nettle (*Urtica dioica*) and jewel weed (*Impatiens biflora*) covering approximately two acres in extent. Extending to the edge of a small spring-fed rill and covering an area of three acres was a patch of jewel weed averaging three feet in height. This was interspersed with scattered box elder (*Acer negundo*) saplings, a scattered growth of wild grape (*Vitis aestivalis*) and woodbine (*Pseuderia quinquefolia*). A few rotted logs lying in this cover were used as a scratching bed. The entire cover was moist; the humidity



THE RUFFED GROUSE

A resident of dense timber, the grouse was formerly found over much of Iowa where suitable timbered areas occurred. Now it is found principally in the hilly, wooded sections of a few counties in the northeastern corner of the state. The male stands on a drumming log, with the female at the left. From a drawing by Sidney H. Horn for Iowa State College.

was greater in the jewel weed patch than in the fern brake which was at an elevation of five feet above the jewel weed area.

A molting cover area in the vicinity of Lansing, Allamakee County, was of a slightly different nature. This area was in a narrow valley and contained a sand-lean soil. The cover plants in this area were chiefly grape, woodbine, black raspberry (*Rubus occidentalis*), green briar (*Smilax rotundifolia*) and poison ivy (*Rhus toxicodendron*). Smaller herbs mixed in this associes of shrubs and vines were tick trefoil (*Desmodium grandiflorum*), white clover (*Trifolium repens*), self heal (*Prunella vulgaris*), Solomon's seal (*Polygonatum commutatum*) and false Solomon's seal (*Smilacina racemosa*). This particular cover occupied four acres of land and supported a population of 12 grouse, 2 adults and 10 young.

The food habits of the grouse were rather difficult to study because of the scarcity of the birds and their secretive habits. On a few occasions a grouse hen was seen feeding on jewel weed pods at the edge of a fisherman's path. This particular bird was seen at about six o'clock a.m. each time she was observed. Another grouse was seen, at five o'clock p.m., feeding upon something on the ground under a box elder sapling. It appeared to be a maple key, of the box elder type, that lay under the small tree, but the writer was not close enough to determine with certainty, the actual identity of this bit of food.

The foods actually eaten while the grouse were under observation were bits of grass shoots, leaves of white clover and jewel weed seed pods. One female grouse was observed to stand motionless, and after listening intently for a few minutes, reached for dew drops that adhered to the herbs near her. She often pecked at objects in the weeds, but from the location of the writer it was impossible to identify these bits of food. An investigation of the plants where this grouse was feeding revealed the presence of numerous insects, spiders and phalangids; this evidence would lead one to suspect that these arthropods were being eaten by the bird under observation.

The greater portion of the adult grouse's summer diet is composed of plant food such as buds and shoots of herbs, leaves of clover, grass, berries and fruits. Young grouse about six weeks of age, seen in Allamakee County, lived almost entirely on small insects, spiders and slugs. Insects remained the major part of their diet until early September when they began to develop a taste for vegetable matter.

The summer range is, perhaps, the smallest seasonal range to which the grouse is restricted. The fact that these birds are flightless and least protected from enemies at this time causes them to stay in cover where vegetation is dense and food for both adults and young, and water is accessible. Valleys, wide ravines and low roadside tangles, varying from four to twenty or more acres in extent, often provide very satisfactory summer cover. The number of grouse inhabiting the molting cover will vary with the abundance of birds and the abundance of other molting covers in the vicinity. It has been the writer's observation that grouse stay within the molting cover in constant numbers and are seldom found beyond 100 yards from their favorite section of the cover. It must be remembered, however, that only a few birds have been observed and perhaps greater observation may yield a slightly greater cruising radius at this season.

The population of grouse in Iowa, as compared with populations in other states, is very low. Backbone State Park had only two grouse present on 1000 acres of cover land; in Iowa Township, Allamakee County, the density of population was highest with one grouse to 40 acres of good grouse range. The greatest Iowa population found would be equal to only one-tenth of the saturation point of population as was found by King¹ in his research on Minnesota grouse.

¹King, R. T.

1937. Ruffed Grouse Management. Jour. of Forestry, 35 (6): 520-526.

By way of summary it is well to note that a good grouse area must be composed of timberland not too closely grazed, and that part of this land must be situated where water is present at the surface of the soil or where dew will form readily. Some fallen logs, to satisfy drumming requirements, should be present and most necessary of all requirements is the dense molting cover of vines and weeds where grouse may retire during the summer when they are low in vigor and least protected from enemies because of molting and growth of new feathers.

One of the grouse was last seen in the Backbone Park in October, 1938, by Glenn Hoffman, an employee at the trout hatchery. The entire Backbone Park area was combed seven times during the summer of 1939, but neither of the grouse seen in 1933 could be found.

Observations in the Lansing area in mid-July, 1939, showed that the grouse were using upland clearings in the oak-hickory woods. Areas that had been cleared from four to six years ago and of less than 200 feet in cross-section were being used for dusting and feeding by adults. The clearings were covered with hazel, panicle dogwood and goldenrod from one to three feet in height. Blue grass and raspberries were also found in the clearings. Younger clearings one to three years old examined by the author and Dr. G. O. Hendrickson did not show signs of usage by the grouse. These upland clearings were still used by some of the grouse as late as July 25.

Grouse dust baths and dropping signs were found at Pikes Peak, McGregor, in five and six-year-old clearings overgrown with eagle fern, interrupted fern, red raspberry and panicle dogwood, on August 9, 1939. On this day a light rain was falling, and ten grouse, nine young and an adult, were flushed from a gully on the east bluff in Pikes Peak Park. The adult fluttered with difficulty for 50 feet down hill, then ran on the ground for some distance down the slope. The young birds were over two-thirds grown. They could fly quite well, and most of them flew 50 yards or more down the slope. The juvenile feathers had not been shed as was evidenced by lack of bars in the tails.

On August 4, 1939, at Lansing, young grouse and adults were found to be using the shaded east and north slopes in dense, damp maple-linden woods. Numerous shed feathers were found, and it was quite evident that the summer molt was taking place at that time. Two adults were flushed on this date, but the flight was labored and continued only a distance of 30 to 50 feet. In most instances the grouse tried to remain hidden or escape by running on the forest floor rather than by flight. Most of the summer birds were at a distance of 25 feet or less from the author when flushed.

GENERAL NOTES

Abundance of the Upland Plover in Van Buren County.—Because of the seeming scarcity of the Upland Plover as a breeding bird over most of the state, it may be of interest to many to know that these birds have been comparatively numerous at Stockport in Van Buren County during the spring and summer of 1939. This is a flat, tiled tableland. I have been watching regularly about ten sections of this flat land, and a rough estimate of one to two pairs a section would be about correct for the population. I have seen no nests, but a female with young was observed on June 20, and a young bird two-thirds grown was picked up on the road on July 18 fatally injured by an automobile.—WILFRED D. CRABB, Salix, Iowa.

MEMBERSHIP NEWS

We are not very well informed as to the summer activities of our members. John Eliese attended the summer session of the University of California. Miss Margaret Murley attended summer school in both

North Carolina and Tennessee. Miss LaMar enjoyed a vacation at Birch Point, on Lake Vermilion, Minnesota. Dr. and Mrs. T. C. Stephens made a western trip during which they attended the American Ornithologists' Union convention at Berkeley and San Francisco in June.

The American School of Wild Life Protection held its 21st annual session at McGregor, July 31 to August 11. As usual, members of the Iowa Ornithologists' Union furnished the bird lectures and guided the field trips—Jack Musgrove, Mrs. W. G. MacMartin, Walter Rosen, Emmett Polderboer and M. L. Jones contributing their services.

Since this issue of 'Iowa Bird Life' has 12 pages instead of 16, we are omitting the membership roll, usually printed in the September issue. It will be printed later.

NECROLOGY

Miss Winifred Mae Gilbert, former Vice-president and member of the Executive Council of our Union, passed away at her home, Cedar Falls, Iowa, June 17, 1939. She was born April 1, 1893, and reared at Garner, Iowa, the daughter of Mr. and Mrs. Peter Gilbert. After completing the Public Schools in Garner, Miss Gilbert earned her Bachelor of Science and Master of Science degrees at Iowa State College, with Dr. L. H. Pammel, Head of the Department of Botany, as her major Professor. Her Doctor of Philosophy degree was attained at the University of Iowa, with Dr. Emil Witschi, Professor in Endocrinology, directing her studies. Interspersed with the years of her attendance at college were some twenty years of fruitful experience in public schools and colleges. In the Des Moines, Iowa, High Schools Miss Gilbert attracted state-wide attention to her teaching about life with living objects in Biology. Consequently, she was asked to take a position in the State Teacher's College, Cedar Falls, Iowa, where for 13 years she taught teachers to use living objects in the field and in the laboratory to interest boys and girls in life. She served on several committees to prepare courses of study in Nature Study and Biology for state-wide use, published by the State Department of Public Education. Recognized as an authority on methods of teaching Elementary Science, she was called upon to deliver many lectures yearly before groups of teachers in the state.



MISS GILBERT

As a teacher and as a trainer of teachers, Miss Gilbert achieved remarkable success in getting others to share with her the joy she found in watching and studying the common things around her. And birds were a part of the world to be understood and enjoyed. To those of us who knew her, she was an inspiration, reminding us with vivid, realistic word pictures that there is much good and much joy in the common things of the world. Hers was truly a happy, vibrant life.—G. O. H.

RECENT BIRD BOOKS

THE MIGRATION OF AMERICAN BIRDS, by Frederick C. Lincoln (Doubleday, Doran & Co., New York, 1939; cloth, pp. i-xii + 1-189, 12 colored pls. & 22 maps; price, \$4).

Dr. Lincoln is probably the foremost student of bird migration since Wells W. Cooke. He has devoted 30 years to study of bird movements, and his work as head of the Biological Survey's division of Distribution and Migration of Birds is well known. His new book is a complete and detailed study of the broad subject of migration.

The opening chapter reviews the history of ancient beliefs regarding migration, a number of which, such as that of swallows hibernating in the mud of ponds, persisted until quite recent times. In many Old World countries the theory that small birds are able to cover great distances by riding on the backs of larger birds is still given credence. The origin of migration is discussed in another interesting chapter. For many years ornithologists have studied the "why" of migration from various angles. Some aspects of the subject require a more satisfactory explanation than is yet available, but authorities now believe that the reproductive organs in birds have an annual development that causes the impulse to begin the long northward flight to nesting areas. Various theories do not fully explain the reason for the flight south in the fall. One is that the decreasing amount of sunlight day by day impels fall migration. In 'Dangers in Migration' the author describes many of the catastrophes that have befallen migrating birds—severe storms that overtook flocks of birds crossing large bodies of water, a mid-west snow that killed thousands of longspurs, disastrous hailstorms, the casualties caused by wires, lighthouses and tall structures, and the destruction of ocean birds by oil discharged from ships. Readers will find this chapter unusually interesting but will regret the lack of references which would direct them to further reading on the subject.

The theme of bird migration with its many unsolved problems is always of intriguing interest. A number of birds of the Northern Hemisphere fly thousands of miles to find territory with adequate food and living conditions. The travels of the Arctic Tern are famous. With summer and winter homes 11,000 miles apart, it crosses the Atlantic Ocean and flies at least 25,000 miles annually. Another famous non-stop flier is the Golden Plover, which winters in southern South America and performs a long flight over the Atlantic. Many of the diminutive warblers make astonishingly long semi-annual migrations. With many species food and nesting requirements are easily met. Their migration is only rudimentary and they travel but a few miles a year. Some species of mountain dwellers move up and down a mountainside, where a few hundred feet of altitude makes changes that other birds fly hundreds of miles to find. The objectives of food and nesting cover are gained at widely separated places by different groups of birds.

Data obtained by bird-banding in the United States have been very important and have added greatly to our knowledge of bird migration. Thirty pages of the book are devoted to outstanding banding records gleaned from the Biological Survey files. We note Iowa records for American Coot, Screech Owl, Slate-colored Junco, Red-headed and Downy Woodpeckers. The final chapters discuss the evolution of migration routes and the flyway systems. Four great flyway lanes are now recognized, and these are the routes over which nearly all our American birds migrate.

The colored plates are by Louis Agassiz Fuertes and are reprinted from Eaton's 'Birds of New York'. The book lacks one important feature. There is no bibliography. Citing all material on migration might have proved too great a task, but it seems that eight or ten pages would have covered all the important papers. The serious student will feel this lack of bibliographical references. To the reviewer it would

seem that a book in the upper price brackets ought to have been flexible enough to satisfy the needs of both elementary and advanced students.—F. J. P.

* * * * *

A GATHERING OF BIRDS, edited, with biographical sketches, by Donald Culross Peattie (Dodd, Mead & Co., New York, 1939; cloth, pp. i-xii + 1-379, illustrated with drawings by Edward Shenton; price, \$3).

If every bird student were privileged to select a score of writers for an anthology, a highly varied list would be the result. Certain luminaries would be found on all the lists, but of the lesser lights there would probably be a great difference of opinion. A national poll among nature lovers might be a worth-while idea; when the results were tabulated, some able writer, like Mr. Peattie, could compile a book from the writers selected.

In the present anthology we have Mr. Peattie's choice of 19 nature writers most worthy of being included in a book of this sort. They are W. H. Hudson, John Muir, Gilbert White, Cherry Kearton, Gustav Eckstein, Peter Kalm, Count de Buffon, Robert Cushman Murphy, Richard Jefferies, Thomas Nuttall, William Beebe, Philip Henry Gosse, Alexander Wilson, Alfred Russell Wallace, Elliott Cones, Frank M. Chapman, Sir Edward Grey, Henry David Thoreau and John James Audubon. We believe his choice is a very good one. If some of the writers be obscure personages, it is all the more desirable to become acquainted with them and to learn of their respective contributions to literature and science.

Mr. Peattie gives a rather lengthy biographical sketch of each one, writing in his inimitable style a vivid description of the man's work, ambitions, hopes, and successes or failures. In each he is able to infuse life and color so that the reader is at once interested and eager to continue the story. Following the biography are given several selections from published writings. In the selection of these Mr. Peattie shows professional skill and sound judgment. Each selection is outstanding and intended to throw light on the period in which the subject lived, as well as to reveal to some extent the nature of the man. Hudson writes of the Golden Plover on the pampas, Muir describes the Water Ouzel, Beebe the hoatzin, White, Nuttall, Cones, Thoreau and the others tell of experiences with various birds. Audubon is given a place, of course, and he is quoted on the Phoebe, the Trumpeter Swan and the Passenger Pigeon. We are glad to see that Wilson, a foremost pioneer ornithologist frequently overlooked, is justly acclaimed and accorded a place among the distinguished gathering. The birds he writes about, Carolina Parrot and Ivory-billed Woodpecker, are in the present day, like Wilson, obscure and nearly forgotten.

It is a notable book in every way—one that the bird student will want to possess and to spend pleasant hours with in the winter evenings ahead.—F. J. P.

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The State Conservation Commission, following the plan adopted in 1938, furnished naturalist service in the larger Iowa parks during the past summer. Several of the park naturalists have issued mimeographed leaflets from June through August. These describe the interesting natural features of the parks, and are illustrated by small pen sketches. 'Ledges Nature Notes', edited by M. L. Jones, naturalist at the Ledges State Park, has been issued weekly. 'The Backbone Nature Trail', edited by E. B. Polderboer, naturalist at Backbone State Park, is another of these little magazines. Intended for distribution among park visitors, these leaflets serve to awaken the public's interest in nature and will do much good.